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ABSTRACT

This is a progress report of Project Open in Mason County, West Virginia. The first part of the report details the progress made in the first year of an attempt to design and implement a new course entitled Career Education in Technology at Point Pleasant Junior High School. This part of the report lists the eight purposes of the project and contains an outline of the content of the course, including additions that were made to the original outline. Program additions to the original guidelines are also briefly discussed. An outline of the major activities of the course precedes a list of the problems encountered during the course. Observations, evaluations plans for the future, conclusions and recommendation, and an appendix containing evaluative correspondence and a metric memorandum conclude this part of the report. The second part of the report details the second year of a similar project at Wahama Junior High School. It begins with a brief introduction explaining the purpose of the project. The first section of this part describes the activities of the second year of the project beginning with the summer of 1974 and including curriculum and program revision, objectives a topic outline of the program, and selected materials. The second section deals with the implementation of the program. The third and final section contains a summary of the project including results, conclusions, and recommendations. (RC)

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ED117037

ANNUAL REPORT

on

PROJECT OPEN

1974/75

Point Pleasant Junior High School

Mason County, West Virginia

U.S. DEPARTMENT OF HEALTH,
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SP009 730

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I. Introduction

- A. The Project Open Concept: "Project Open" is the term used to define the curriculum development effort in the area of technology education. The idea for this effort grew out of the program for the study of technology at West Virginia University.

Project Open in Mason County was initiated during the 73-74 school year with a team of curriculum developers at Wahama Junior High School. Through contractual arrangement with West Virginia University and Mason County school board, a second "project open" team began work at Point Pleasant Junior High School during the 74-75 school year.

This report describes the curriculum development efforts for the 74-75 school year at Pt. Pleasant Junior High School. The materials described here was embodied in a course entitled, "Career Exploration in Technology". It was based upon the needs of a particular school at that time, and was meant to be an integral part of the county career education program.

The model used to implement this curriculum effort has been designated as the "flip-flop" model involving two full-time doctoral students from West Virginia University. Starting on July 1, 1974, the two teacher/scholars spent the summer developing a curriculum plan and instructional materials to be used in implementing a technology education program. In September, one student moved to Mason County and assumed the duties of a full-time teacher/curriculum developer in technology education. Meanwhile back at West Virginia University, his partner was functioning as a full-time graduate student and as a resource person for the teacher in the field. During the Christmas recess the team members, "flip-flopped"; that is, they changed assignments and responsibilities. See figure 1 below:

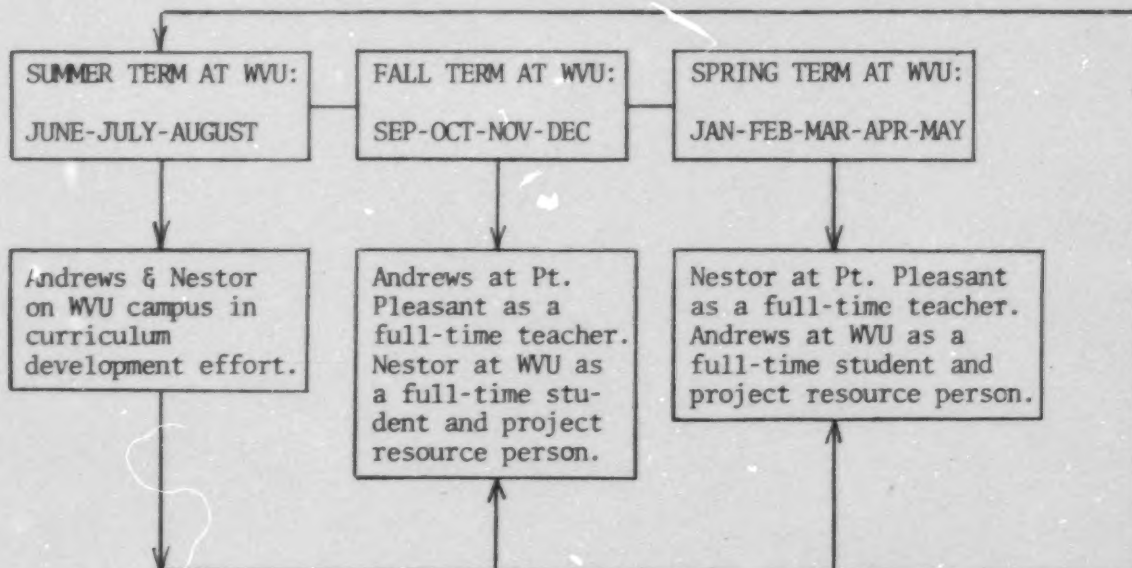


Figure 1. Schematic of the "Flip-Flop" Project Open model.

At the end of a three year time period the project will be phased out and the county will be left with an instructional plan that was developed expressly for, and field tested in, Mason County.

- B. Individual Team Members involved: The two members involved in this project are: Wayne D. Andrews and Charles Nestor, Mr. Andrews joined the program from Fitchburg State College in Fitchburg, Massachusetts. Mr. Nestor joined the program from Adams State College in Colorado.
- C. Project setting: This curriculum development effort is taking place in Point Pleasant Junior High School in the town of Point Pleasant, West Virginia. The community of Point Pleasant is located in Mason County at the confluence of the Ohio and Kanawha rivers. The primary industry in Pt. Pleasant has been for many years, agriculture. However, in most recent years the trend has been toward industrialization, particularly in foundry metals and chemicals.
- D. Project Site (School): Pt. Pleasant Jr. High School is a relatively modern school facility which houses grades 7-8-9. The total school population for the 74-75 school year was approximately 1150 students. Our program, "Career Exploration in Technology" was offered to all 8th grade boys and girls for one half of the year. This program took place in a normal classroom setting.
- E. Students Population:
 - 1. First Semester: 44 boys and 82 girls totaling 126
 - 2. Second Semester: 66 boys and 78 girls totaling 144

II. Purpose of the Project:

A. Objectives:

- 1. To provide students with Technological awareness through the examination of Man's creation and use of Technology in an attempt to control their environment.
- 2. To identify characteristic trends or imperatives of Technology that will enable students to better understand principles such as:
 - a. Technology was created by man.
 - b. As time passes, fewer men control Technology.
 - c. Change is a constant in Technology. It's growth rate is exponential.
 - d. There is a lag between Technological change and socio-cultural change.
 - e. Technology is self-augmenting.
 - f. Technology defines work and leisure time.
 - g. Technology has both benign and malignant effects.
 - h. Technology breeds dependence upon itself.
- 3. To provide students with a variety of experiences aimed at using an organized, systematic method of inquiry to solve problems.
- 4. To provide students with a variety of experiences that will reinforce

the necessity of developing skills in reading, writing, and computational ability.

5. To provide students with the opportunity to explore the different facets of both our natural and synthetic environments so that they may better understand the concept.
6. To enable students to become better consumers by examining some of the things they use, and how in turn this affects their environment.
7. To provide students with opportunities to explore different careers as they relate to 'Man and his Environment'.

- B. Curriculum Development and Planning: A major purpose of the project open effort is to coordinate the county curriculum development efforts in the technologies so that as the last project is phased out the county will be left with an overall coordinated county curriculum design and plans that have been field tested. From that point on, the projects will be kept on-going by the appropriate county appointed personnel.

III. Outline of Content: The following describes the broad content areas included in the course, "Career Exploration in Technology".

A. Man's Environment - What is it?

1. Places built or shaped by man

- a. Huts
- b. Houses
- c. Forts
- d. Towns and cities

1. Offices
2. Stores
3. Parks
4. Roads

2. A Design

- a. Form follows function
- b. Aesthetics

B. Why build an Environment?

1. Shelter from the elements

- a. Immediate need for survival

2. Privacy

3. For work

- a. Importance of work environment for productivity, creativity and health

4. Leisure time
 - a. Indoor
 - b. Outdoor
- C. What determines the form of our Environment?
 1. Man's physical size
 2. The size of man's families
 3. What man needs for life and comfort
 - a. Plumbing
 - b. Electricity
 - c. Rooms for sleeping etc.
 - d. The Jones'
 4. Activities that we carry on
 - a. Entertain family and friends
 5. The land on which we build
 - a. Locations
 - b. Soil types
 6. The availability of building materials
 7. Building methods used
 8. How we get from place to place (transportation)
 9. How we make some places more important than others
 - a. Churches
 - b. Federal buildings
 10. How we make our environment interesting
 - a. Principles of art and design
 - b. Nostalgia
- D. How do we change our man made Environment?
 1. Change is a constant force
 - a. We are continually seeking greater efficiency and productivity
 2. Displacement from place to place
 - a. Mobility of our work force
 3. We are continually changing, adding to, or demolishing parts of our environments

4. We change our environment through ignorance

a. Malignant effects of Technology

1. Pollution
2. Resource depletion

E. Man the Consumer

1. What does man consume?

- a. Goods
- b. Services

2. What external pressures influence what we buy?

- a. Peer group
- b. Parental
- c. Socio-cultural
- d. Media - effectively creates many psychological needs and desires by stressing youth, beauty and sex

3. Free enterprise system - based on competition

- a. Supply and demand
- b. Amount of money available for spending
- c. Quality of a given product vs. price
- d. Wholesale vs. retail
- e. Unit pricing
- f. Brand name products
- g. Guarantee vs. warranty

4. Role of government (local, state, federal)

- a. Laws
 1. Labeling
 2. Safety
- b. Taxes
- c. Distribution

F. Man the Transporter:

1. Need

- a. Social
 1. Personal
 2. Economical

2. Control

- a. Limitations
 - 1. Human
 - 2. Financial
 - 3. Natural
 - 4. Facilities
- b. Government regulations
- c. Union regulations
- d. Company regulations
- 3. Pre-transit
 - a. Agreement (Contract)
 - b. Packaging
 - c. Routing
 - d. Loading
- 4. Methods of Transit
 - a. Motor vehicles
 - b. Railroads
 - c. Vessels
 - d. Aircraft
 - e. Spacecraft
- 5. Post-transit
 - a. Receiving
 - b. Inspection
 - c. Storage
 - d. Distribution

G. Man the Communicator:

- 1. What does man communicate?
 - a. Thoughts
 - b. Ideas
 - c. Values
 - d. Attitudes
 - e. Knowledge
 - f. Social systems
 - g. Culture
- 2. Who does the communicating?
 - a. Inter-personal
 - 1. Parents
 - 2. Teachers

- 3. Judicial figures
- 4. Friends
- 5. Peers
- b. Mass communication
 - 1. Radio
 - 2. T.V.
 - 3. Advertisements
- 3. What forms do these communications come in?
 - a. Oral communications
 - b. Printed materials
 - c. Visuals
 - d. Audio
 - e. Touch
 - f. Audio-visual
- 4. What do you do with the information once you have it?
 - a. Action
 - b. Non-action
 - c. Based on:
 - 1. Perceptions/understandings
 - 2. Source credibility
 - 3. Language used and tone

H. Man the Producer (area of construction)

- 1. Building design
 - a. Structural
 - b. Functional
 - c. Aesthetic
- 2. Building materials
 - a. Wood
 - b. Metal
 - c. Stone
 - d. Glass
- 3. Site selection
 - a. Mapping
 - b. Surveying
 - c. Soil testing
- 4. Application of principles (Future orientated)

IV. Additions to Content Outline:

- A. Manufacturing: The original program was developed with certain assumptions pertaining to the general community, structure of the school system and student abilities. After one semester of field testing of the section entitled, "Man the Consumer", it was decided that the focus of this section should be redirected toward the world of manufacturing.

Since the simple machine is the bases for the operation of industry and led Western man into industrial revolutions, Mr. Nestor felt that this should be the starting point in the study of manufacturing.

In order to present the world of manufacturing, additional content had to be added to our course outline. These additions are shown below:

I. What makes up a physical environment?

- A. All things created by nature that are non-living.
- B. All things created by nature that at one time were living but are now non-living.
- C. Man-made objects or materials.
 - 1. Tools
 - 2. Machines
 - a. Lever
 - 1. First class lever
 - 2. Second class lever
 - 3. Third class lever
 - 4. The wheel and axle
 - 5. Pulleys
 - b. Inclined plane
 - 1. Wedge
 - 2. Screw

- B. Communications: Because of available equipment and supplies, an activity oriented unit in communications was offered. To do so an addition to our content outline was necessary. This addition is shown below:

I. Ancient forms of communication

- A. Ancient art
- B. Speech
- C. Writing
- D. Etc.

II. Various relay systems prior to electrical communications

- A. Voice relay
- B. Smoke signals

- C. Light signals
- D. Mail
- E. Etc.

III. Extension of man's vision

- A. Art
- B. Photography
 - 1. History
 - 2. Function

IV. Extension of man's thoughts

- A. Radio

V. What is the premise for communications?

- A. Purpose
- B. Channel
- C. Transmission
- D. Reception
- E. Feedback

VI. What systems are used by man to communicate?

- A. Man to man
- B. Man to machine
- C. Machine to machine
- D. Machine to man

- C. Metrics: The CEIT course at Pt. Pleasant Jr. High School was a metric program beginning 2nd semester. This was done because of a growing need for students to comprehend this future system of measurement.

In support of this additional program we were pleased to see a "metric resolution" sent out on May 5, 1975 by Mr. Daniel B. Taylor, State Superintendent of Schools. This particular letter may be found in the appendix.

Only three phases of metrication were concentrated upon; length, mass, and volume. Wherever possible metrically calibrated instruments were used and metric terminology was introduced. Students were required to work a series of metric problems that dealt at first indirectly and then directly with metrics. The main thrust of the worksheets centered around the working of decimal addition and subtraction problems, scientific notation, and metric addition and subtraction problems.

The outline of this program is listed below:

I. Metrics

- A. Decimals
- B. Scientific notation
- C. Metrics

1. Mass
2. Volume
3. Length

V. Program Addition:

- A. Special Education: In the original guidelines of this program special education students were excluded by the administration of Pt. Pleasant Jr. High School due to large class sizes. After the CEIT program got under way on January 2, 1975, the teacher, Mr. Nestor, was visited by two very interested and enthused special education students; Lucian Taylor and Don Patterson. Finally, Miss Lewis of the Pt. Pleasant Jr. High School special education department asked why no special education students were included in our program. It was explained to her that class sizes alone limited those who could enter such a program. But after a month discussion with several of these enthused children and Miss Lewis, it was decided that it would be possible to include few highly skilled students into some of the CEIT classes. We discussed this issue with Mr. Burris, the building principal who was to make the schedule changes. On February 26, 1975, Mr. Nestor met with Miss Lewis, Miss Wolverton and Mr. Sayre and thoroughly reviewed the CEIT program with them. It was explained that we could only include special education students who could function in our class, and it was agreed that if a student ran into academic or emotional problems, he would be removed from the program.

We can report with great satisfaction that these instructors did make prime choices that met the minimum standards of our program.

VI. Major Activities:

A. Primary:

1. Lessons
2. Construction of "mobiles"
3. Construction of "collages"
4. Educational T.V.
5. Student Notebooks
6. Group reports
7. Individual Reports
8. Games/simulations
9. Experiments
10. Decoupage
11. Line production
12. Paragraph writing
13. Paint the classroom

B. Supportive Media

1. Films:

- a. Change for the better
- b. Transportation in the future
- c. Childrens clothing
- d. Food, fibre, environment

- e. The Story of Productivity
- f. ABC of Hand Tools
- g. The Trouble with Trash
- h. Family Fire Safety
- i. Fashion Designs of Your
- j. Voices
- k. They use to call it printing
- l. The Moving Earth - A Story of Mined Land Subsidence Controls
- m. Wealth Out of Waste
- n. Behind Your Snapshot
- o. Movies Move People
- p. A History of Motion Pictures
- q. Simple Machines: Work and Mechanical Advantage
- r. The Meaning of the Industrial Revolution
- s. Computer Revolution - Part I & II
- t. Now You See It

2. Films Strips

- a. Early Communications
- b. Transportation in the U.S.A.
- c. The Second American Revolution: Technology
- d. Eli Whitney Changes America
- e. Efficient America
- f. Communications Break Through
- g. Radio and Television

3. Field Trips

- a. West Virginia Malleable Iron Company
- b. Foote Mineral Company

4. Guest Speaker

- a. Ms Anne Fransworth of C & P Telephone

VII. Problems Encountered:

- A. The single most irritating problem encountered during the first semester was the lack of tools/materials, and supplies. Requisitions for needed items were sent out to various companies during the summer of 1974. However, many items ordered didn't arrive until the very end of the first semester and some lagged into the spring of 1975. Because of these delays, many changes were made in the types of activities that could be offered to the students.
- B. Magazine subscriptions were lost for unknown reasons and incoming journals arrived irregularly.
- C. The scope of the content as outlined was too vast for the period of time spent and the capabilities of the students.
- D. It was found that many students were poor readers and lacked the capability to handle simple math equations.

VIII. Observations:

- A. Students began to see the value of the CEIT program as time progressed.
- B. Students came to realize the materials and equipment were there for student use. There was a definite attitudinal change in a positive direction in relationship to respect for school property.
- C. We feel that one outstanding factor which lent to the success of our program was the good cooperation of the Jr. High School administration and faculty.

IX. Evaluation:

- A. External: Monitoring and assessment of the program was on-going throughout the 1974-1975 school year. Dr. McCrory, Coordinator of Field Services in the Technology Education Program and Dr. DeVore, Project Open Mason County advisor, each made a series of trips from West Virginia University to observe the program in action. Mr. James Snyder, Industrial Arts Specialist from the State Department of Education, also made several visits during the semester and was very helpful in his comments and recommendations. Mr. Will Edwards, Director of Career Education for Mason County, was also a visitor to the classroom. The principal and vice principal of the junior high monitored the progress of our program by observation, and discussion with the children. And finally, Mr. Richard Austin, Pr. Pleasant High School chemistry and physics instructor, observed several classes in session (see appendix for evaluation letters from selected individuals).

- B. Internal:

1. First Semester: The students were asked to evaluate the program by answering the following questions: What did you like about the program and why? What did you not like about the program and why? How would you recommend that the program be improved? The answers to these questions tend to reaffirm our commitment to an activity-centered program. The students responded that they liked all of the activities, especially the individual and group projects and the field trips. They disliked taking notes on films and discussions as well as keeping a notebook. The students recommended that next year the course should offer more field trips to local industries, more group projects and more work with tools.

2. Second Semester: Student evaluation was unique during the second semester. On different occasions students from the previous semester expressed their interest in the CEIT program through conversations with Mr. Nestor and other peers. This was a definite supportive factor in working with the second group of children.

Throughout the second semester students received brief questionnaires for evaluation of various units of instruction. In addition to this, Mr. Nestor was able to observe an array of student reactions generated from activities, audio-visual materials, lessons, the instructor, and other students which added to the evaluation data.

The students felt more field trips were needed, and also that the activity-oriented lessons were not only interesting but fun. Pupils also indicated that they felt notebooks, metric worksheets, and the final exam were unnecessary. (see appendix for student letter)

- X. Plans for the Future: Based upon the experiences we had this year and in view of the fact that "Project Open" will further expand next year, the focus of our project is likely to change somewhat in the future.

We are now thinking in terms of three grades (7-8-9) for our curriculum planning work. At the seventh grade the students might receive an introduction to the study of technology. An observer in one of our classes might see eighth grade students involved in an in-depth study of production; and ninth graders studying communications in-depth. This is only speculation at this time. The important thing is that we are currently asking questions about the future and that by the end of the summer of 1975 we will have some of the answers.

- XI. Conclusions and Recommendations: From the different standpoints of those concerned, the first year of "Project Open" at Point Pleasant Junior High was a success. The teachers/curriculum developers involved with the project now have more information on which to base their revision for next year. They also have the majority of all tools/equipment that they had ordered, and so can definitely plan on activities in which these will be incorporated. We recommend the following for next year:

1. All materials/tools/equipment should be ordered as early as possible --in any case not later than July 1.
2. New personnel should meet with county officials, especially the principals, as early as possible for their input.
3. An in-service should be conducted at the teacher center at WVU for all new personnel to help sharpen the focus of our mission.
4. In planning any new programs, or revising old ones, as many "hands on" activities as possible should be incorporated.
5. We feel there is room for improvement of communications between the field coordinator, liaison, principals, and teacher/scholars.
6. In the event that any requisitions for materials and equipment are delayed the teacher/curriculum developers should be notified.
7. The Vocational School of Mason County should be used to a greater extent for field trips.
8. All funds that are allocated to the CEIT program should be placed in the budget of the building principle specifically ear marked for CEIT.
9. A career education resource center should be developed within the library of Pt. Pleasant Jr. High School.

10. A student Technology Education Club should be developed which would allow interested students to explore areas of interest within technology.

XII. Appendix:

A. Letters from the following people:

1. Dr. David McCrory, Director of Field Service, WU Technology Education Program
2. Dr. Paul DeVore, Advisor, Project Open Mason County
3. Mr. James Snyder, I.A. Specialist State Department of Education
4. Mr. Will Edwards, Director of Career Education, Mason County
5. Mr. Virgil Burris, Principal, Point Pleasant Junior High School
6. Mr. Richard Austin, Pt. Pleasant High School, Chemistry and Physics instructor
7. Gayle Williamson, 8th grade student, Pt. Pleasant Jr. High School

B. Metric Memorandum from State Department of Education

APPENDIX A
EVALUATIVE CORRESPONDENCE

**West Virginia
University**

MORGANTOWN, WEST VIRGINIA 26506

College of Human Resources and Education
Technology Education Program

June 17, 1975

Technology Teacher Center
2925 University Avenue

Mr. Wayne Andrews and
Mr. Charles Nestor
2925 University Avenue
Morgantown, WV 26506

Dear Colleagues:

In reply to your letter of June 3, 1975, I am happy to offer the following observations regarding your 8th grade Project Open at Point Pleasant Junior High School.

First, I would like to congratulate you both for doing a fine job during this first year of the project. It is gratifying to know that two young men can come aboard our Teacher Center organization and on very short notice develop an instructional program that teaches junior high school students about the important aspects of technology.

I was especially impressed with the efficient and effective way you both adapted a standard-size classroom to fit your project goals. Your employment of portable power and hand tools for student activities reinforces that hypothesis that a complete laboratory of heavy equipment is not entirely necessary for a technology education program at the 8th grade level.

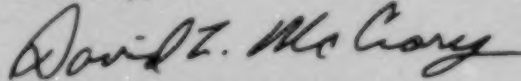
During my observations at the school it was obvious that your students were interested and attentive. The results of their activities indicated their involvement in your course of study. On those visits I also received many positive comments about your project from the school administrators and the students.

The "flip-flop" model requires a great deal of cooperation among the two teacher/scholars, school personnel, and university advisors. On this first year of your project, you both have demonstrated that the model does work - and works well.

Perhaps the most significant indicator of your success this year was reflected by the early request from Point Pleasant Junior High School for another Project Open team for the 9th grade in 1975-1976. I submit that such a request coming from the Mason County school officials, is the ultimate evaluation of the worth of your project.

I am looking forward to another successful year in working with you.

Sincerely,

A handwritten signature in dark ink, appearing to read "David L. McCrory". The signature is fluid and cursive, with the first name "David" being more prominent.

David L. McCrory
Coordinator of Field Services
Technology Education

DLM/cjk

West Virginia University

MORGANTOWN, WEST VIRGINIA 26606

College of Human Resources and Education
Technology Education Program

MEMORANDUM

TO: Wayne D. Andrews
Charles Nestor

FROM: Paul W. DeVore *PWD*

RE: Response to request to "reflect" on Project Open -
Point Pleasant Junior High School

DATE: June 6, 1975

A. Overall Assessment

The goal of the teaching model of Project Open was and is to design, develop, implement and assess curricula models for technology education in public schools where programs did not or do not exist. The goal is to OPEN a new area of education for children and young adults in public schools in Appalachia.

Any assessment of a specific program must be based on an understanding and comprehension of this overall goal. The Point Pleasant project (Grade 8, Point Pleasant Junior High School) is a definite success when assessed using the above goal as a basis for measurement. For example:

1. a new technology education curriculum was designed.
2. a new technology education curriculum was developed.
3. a new technology education curriculum was implemented.

It is much too early to assess the curriculum model. However, there are indicators which provide some measure of success. My visits, discussions and observations have enabled me to identify the following.

A. School Administration:

1. The Superintendent and School Board have renewed the contract for the second year.
2. The Superintendent and School Board have contracted for the expansion of the program to grade 9.
3. The principal and assistant principal are positive about the program. Their behavior has been supportive, e.g. facilities, scheduling, supplies, etc. My observation is that we couldn't ask for a better situation even though there are the usual day-to-day problems.

B. Parents:

In general, the information I have enables me to conclude that with very few exceptions the parents are supportive of the technology education program. It is interesting to note that most new programs which are different (content, instructional strategy, boys and girls, etc.) generally receive a higher level of visibility and criticism than do established, traditional programs. The fact the Point Pleasant program has not been under attack by parents, but has been supported, both overtly and covertly is an indication of the probable high level of acceptance of the program by the community.

C. Students:

My observation, my questions and reports from the field all provide information which provides a base from which to conclude that the students are interested in the program and supportive of it. I did not observe one class session which would indicate other than a high level of motivation and interest on the majority of the students. The rapport developed by the training associates with the students was evident during each of my visits. My conclusion, without specific objective evidence, would be that the student interest level is high.

General Comments:

1. Project Open. I am convinced we are developing a valid and appropriate change model for technology education. I am also convinced that the clinical doctorate will provide the profession with much needed teacher educators who "know what is going on" and who can, because they have related theory to practice, assist education in "transcending the past and project to the future." The issue is people, not programs. The Project Open teaching model focuses on the critical variable of people.

2. Recommendations:

The project team (4 members plus the Wahama team) should consider the following.

- (a) develop a Mason County Curricula Model for Technology Education
- (b) develop and implement a middle school technology education model
- (c) design and test assessment devices and procedures for the curricula model
- (d) Design, implement and test instructional strategies for the implementation of the curricula.
- (e) Design and test assessment devices for the measurement of the objectives of the program related to student competencies.

I would recommend that all of the above, a through e, be viewed as the means to attain an agreed upon plan of action which is not personal or esoteric but rather open, agreed upon and replicable. This means a team effort which will require considerable planning prior to action. The result, however, should be that by this time next year we could all discuss in a very objective manner how well we have met our goals.

PWD/fb



State of West Virginia
Department of Education
Charleston
25305

DANIEL B. TAYLOR
STATE SUPERINTENDENT
OF SCHOOLS

MEMORANDUM

TO: Charles Nestor, Wayne Andrews
FROM: James F. Snyder, Curriculum Specialist, Industrial Arts
SUBJECT: Year End Evaluation, Point Pleasant Junior High School
Project Open
DATE: June 24, 1975

Project Open at Point Pleasant Junior High School is another example of a successful program of Technology in a very contemporary setting. The project was established this school year, 1974-75, and has evidenced a high degree of success.

Without a traditional Industrial Arts environment the team of Wayne Andrews and Charles Nestor established a curriculum and program to meet identified needs for students at Point Pleasant Junior High School. Many facets of Technology were explored and indepth study in selected areas was accomplished. An ordinary classroom was provided and with the addition of portable power equipment and hand tools, an environment was established to provide students with a basic technology program.

The team worked well with the class assignments of one semester offerings to all eighth grade boys and girls. Though the semesters were not the same each group of students received a well developed phase of the World of Technology.

Visits of the program indicated that the team had planned well, received backing from their team member and support from the school administration. In addition the Board of Education and the Supervisor has shown support to the program.

The students are interested and very involved in this new field of study now being offered to them for the first time.

The project is indicative of what can be done with limited space and innovative thinking and planning.

The next year looks very promising and interesting for Point Pleasant Junior High School.



Mason County Vocational Center

OHIO RIVER ROAD

POINT PLEASANT, W. VA. 25350

A. E. Sommer, Jr.
Director

Will Edwards
Assistant Director

Nancy Newman
Secretary

Maxine Lathey
Secretary

June 13, 1975

Wayne Andrews
Chuck Nestor,
Training Associates
Technology Education Teacher Center
2925 University Avenue
Morgantown, WV 26506

Dear Mr. Andrews:

This letter is in regard to your request of June 3, 1975 concerning my viewpoint of the accomplishments of the Career Exploration Project at Point Pleasant Junior High School during the 74-75 school term. I feel very strongly that the program be evaluated annually in order that the accomplishments be noted as well as the deficiencies. Likewise, this evaluation gives individuals in the program a chance to see how others view the program.

The program has proven to be a very activity oriented and high interest level approach. I have observed many times the interest students have exhibited to the various hands-on activities. I feel these types of activities correlated with the practical information covered in the course content make the students seem to be gaining many usable tactile developmental skills for later reference in using tools.

After consulting with Mr. Burris, principal of the Point Pleasant Junior High School, I have found that the dropout rate has decreased during the eighth grade year. It is his opinion that the students have exhibited very high interest in this type of course. Likewise, communications through letters and phone calls have shown that the parents have expressed their approval of the program also. I feel these attitudes reflect the feeling of the general public in regard to the importance of students exploring career opportunities at an early age.

In reference to the cooperation among the school administrators and Project Open Staff, the communications from Morgantown to Point Pleasant and vice versa, on the whole, have been good.

The Project Open Staff in charge of monitoring the project have been very consistent in visiting the project and making recommendations. On occasion there have been communication breakdowns on the local level. This could possibly cause some bad feeling about the program if such incidents are not known about by the Project Director. Therefore, I recommend if there is any question about the importance of an incident that may cause later effects on the project, the Director be informed immediately.

In summing up the effectiveness of the total program this year, I would like to comment on two specific items. First, the team member at the University has been very effective in keeping the team member at the school informed and provided with resource materials and other needed research work. Second, the project has noted through its evaluations record of the students that each student is being classed as an individual and, therefore, has every opportunity to succeed.

I hope this letter of evaluation has been of some value to you this year and even more value for next year.

Sincerely,

William A Edwards

William A. Edwards, Director
Career Education

WAE:m1

RALPH M. SAYRE
Principal

DIANA BODKIN
Secretary



LARRY L. SAWYERS
Vice Principal

M. FRANCES WEDGE
Secretary

Point Pleasant High School
2312 Jackson Avenue Phone 675-1350
Point Pleasant, West Virginia

To Whom it may concern;

During the past semester I became aware of, and observed a unique bit of curriculum development (in the field, not just sketches or quibuplicate forms). This "industrial arts without money" program appears to me to fill a real need in a student's developing awareness of the "work-a-day" world! It further more provides insight into the relationship between scientific principles and useful products; appears to provide some necessary skills in both metal, wood, and wiring etc. and

RALPH M. SAYRE
Principal

DIANA BODKIN
Secretary



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Point Pleasant, West Virginia

in introducing mass production procedures is much more relevant than related traditional courses.

The most significant advantages of this program however are ; 1) low funding for tools, 2) high premium on ingenious approaches on the part of the instructors, and 3) at present - wide awake, young, unorthodox instructors willing and able, apparently, to carry out many of the objectives and develop adequate relevant class activities.

Here is where I had a chance to participate and I certainly enjoyed it - for reasons not listed as well as enjoying company of instructors!

#3

Now I've invested a lot of time and money (books, magazines, science fair prep, individual studies, and const. of lab equipment for chem. & physics labs) in 16 years in trying to keep our labs in forefront of state - however where I'm certain most of our students have benefited, I have not been able to interest or find interested Jr. high & or elementary teachers ~~that~~ could or would utilize the safer & simpler ideas - i.e. experiments - projects - to advance our program and enrich their classes - Well, after 10 years of this, I certainly appreciated the Tech Career fellows listening and then actually using some of my more relevant practical ideas involving photography, pin ball components,

#4

RALPH M. SAYRE
Principal

DIANA BODKIN
Secretary



Point Pleasant High School
2312 Jackson Avenue Phone 675-1350
Point Pleasant, West Virginia

LARRY L. SAWYERS
Vice Principal

M. FRANCES WEDGE
Secretary

flashes from light bulbs etc - Although
their general course was already
plotted of course, they combined
some of these practical devices and
ideas very effectively and quickly
Terribly satisfying to me - interesting
to the kids - useful to their career
tech instructors I hope -
Suggested suggestion -
Manufactory - Bricks from flyash
Compression tester → Quality control

Spectrograph (Diffraction Grating)
(Blackened Box with 2 holes & grating)
Communication - Photography
pinball relay telegraph unit
Robot (from pinball components)

#5 -

Had some others but these should
cause enough trouble - Don't
worry about administrative or
parent gripes - generally we're
being swamped by orthodox
classes and tournament athletics
to the point that this Tech
Career program certainly is encouraging
and worthy of much effort,
aggravation, and support.

I'd be glad to give it
more of all 3 - anytime

Robert H. Smith

Dear Mr. Nester,

I would like to thank you for all the things you have taught me in this semester of C.E.I.T. I have successfully built a camera and radio, projects which I had never dreamed of accomplishing. I would also like to thank you for the trust you had in me to allow me to use any of the tools in the classroom, including expensive ones like the electric drill and

this may sound odd, but I like keeping things that remind me of the first time I've done something so I would like to keep my camera as long as I can, so I'll remember the first time I used an electric drill.

Thank you again, Mr. Nester, for everything. I will remember you as a very

patient and educated teach-
er.

Your student,
Haye
Williamson

APPENDIX B
METRIC MEMORANDUM

WHEREAS:

The National Education Association has resolved that teachers of all grades should teach the metric system to assure, as a national goal, the orderly transition to the use of the metric system as a primary system by 1980; and

WHEREAS:

The National Conference of Weights and Measures has resolved that all State Departments of Education follow the recommendations of the National Educational Association and the action taken by other states in initiating a program of instruction in the metric system;

BE IT THEREFORE RESOLVED THAT:

Commencing with the 1976-77 school year and thereafter, all schools under the rules and regulations of the State Board of Education shall provide instruction in the International Metric System of Measurement. Such instruction may be in addition to present instruction concerning the system of weights and measures in the public schools on the effective date of this resolution; provided, however, that the International Metric System of Weights and Measures shall be taught as the primary system of measurement beginning with the 1980-81 school year.

Past by State Board of Education
April 11, 1975

ANNUAL REPORT

on

PROJECT OPEN

1974/75

Wahama Junior High School
Mason County, West Virginia

James R. Gray

Walter A. Seder

Field Associates
Technology Education Program
West Virginia University
Morgantown, West Virginia

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Introduction

This document is the second in a series of three consecutive annual reports on Project Open, Wahama Junior High School. As such it reflects the progress made to date following the conclusion and subsequent submitting of the initial document.

The purpose of this report is to continue the initial efforts of communicating the operation and functioning of a curriculum development and implementation project being carried out between the Program for the Study of Technology, West Virginia University, and the Mason County Public School System, West Virginia. Among its many concerns are the review and revisions which took place during the summer of 1974, the restructuring of the curriculum, the operation of the newly structured curriculum during the 1974/75 school year, and the many events which transpired during this period of June 20, 1974 to June 20, 1975.

The Second Year

Summer 1974

Upon returning from the field in early June, to the West Virginia University Campus, the 20th of that month marked the formal beginning of the second year for Project Open, Wahama. On that day, a meeting was called for the purpose of debriefing the Mason County Advisory Committee of the previous years accomplishments and shortcomings. The meeting adjourned without critique.

June 21st saw the arrival of Will Edwards (to Morgantown), the County Project Liaison. His visit was imperative, for it not

only met a prior criterion of the Project Open concept, that is to maintain communications between the University, State, and County, but also afforded the Program for the Study of Technology further insight into the County's needs and thoughts on education, and its economic and physical makeup.

With one year of experience, and a better understanding of the educational needs of Mason County, it was evident that change in the curriculum and instructional plans would be necessary. Due to this realization, the entire summer was devoted to research, evaluation, and revision. The following events facilitated in bringing about the 1974/75 program.

- June 26 - Project Open team members Jim Gray and Walt Seder set forth a proposal concerning a new direction to be taken. Drs. DeVore, Lauda, and McCrory were in attendance.
- July 1 - Since the curriculum content for the project is derived from the major area of manufacturing, Dr. Frank J. Orlando, a specialist in that area was consulted. His expertise, recommendations, and prior research became a positive influence on the new approach.
- July 9 - A county visitation was made. At that time Ed. Sommer, Will Edwards, and Gary Walbrow (the new vocational Agriculture teacher) were at Walt's disposal to clear up some of the ambiguity that had arisen the previous year, and to establish policy for the utilization of facilities for the oncoming school year. (Also, Chuck Nestor and Wayne Andrews, the new Point Pleasant Junior High team, accompanied for their initial visit).
- July 18 - Due to overloaded schedules, duties, and expansion of the Program for the Study of Technology at W.V.U., it was deemed imperative to assign a specific staff member who would assume the responsibility for those decisions concerning either of the two projects in the county. As a result Dr. Paul W. DeVore became directly accountable for the oncome year, with Dr. McCrory

maintaining his previous position, that of Director of Field Services.

- July 24 - The 1974/75 curriculum plan was presented to the Mason County Advisory Committee. It was approved, but not without critique and recommendations for improvement.
- August 14 - All Mason County team members were called together by the Mason County Curriculum Advisor, Dr. Paul W. DeVore. It was here that the years strategy was disclosed and project operational procedures were established.
- August 17 - Projects Open, Mason County met with County Advisor, the topic, concept learning. Also it was established that four in-county visitations would be tentatively scheduled.
- August 21, 22, 23 - Projects Open, Wahama and Point Pleasant Junior High team members attended the "Career Education Workshop" held at the Mason County Vocational Center.

Rationale for Curriculum Revision

In order to fully comprehend the following, it will be imperative that the reader review the 1973/74 Project Report, beginning on page five with The Program.

As the program progressed throughout the 1973/74 school year it was realized continuously that for the majority of the students, no previous exposure or knowledge of manufacturing was held. Further, it was found that those 12 units which were presented made a rather poor attempt at aiding the student in his or her comprehension of the overall concept of manufacturing. As a result of the unit approach, it was felt that the student was exposed to an extreme amount of information that lacked in its ability to interrelate the subject matter to that age level. And most important, one of the major objectives of the Program for the Study of Technology was not attained. It was here that the initial attempt fell

short, for it became apparent that mans' role in manufacturing was juxtaposed to that content presented.

In order to overcome the initial problem, that is the students' lack of knowledge or exposure to manufacturing, a systems approach was selected, based on the research of Dr. Frank J. Orlando, currently a staff member at Glassboro State College, Glassboro, New Jersey. It was in the identification of the five major evolutionary manufacturing systems, namely the

1. Household System
2. Handicraft System
3. Basic Factory System
4. Mass Production Factory System
5. Automated Factory System

that it was realized that that material which was deemed important could be initially related to the students' personal experiences encountered in this home environment. This was made possible with the introduction to the Household System of Manufacture. In other words, the attempt was made to take the students from where they were at and progressively introduce each new system until current manufacturing practices and procedures were identified. In contrast to the 1973/74 Curriculum Plan, where only present day industrial procedures were explained. Thus the simpler developmental stages imperative to greater understanding were not considered.

In order to eliminate the second problem identified, the 12 unit approach was dropped in favor of a conceptual scheme. It was our desire that through the implementation of this plan of action that continuity and interrelatedness of that material presented would

prevail. Also inherent in combining both the systems and conceptual scheme is that one can proceed from the simple to the complex, for in progressing to the latter one merely builds upon that which has already been presented in the former. This can further be made clear if one is cognizant of the fact that for each manufacturing system presented, the same set of concepts as identified under fabrication and processing, subheadings of manufacturing, were set forth. Those concepts used were

- A. Research and Design
- B. Plant Engineering
- C. Product Processing
- D. Purchasing
- E. Design Engineering
- F. Personnel
- G. Sales and Distribution
- H. Planning and Control

In order to bring the Social/Cultural implications of Technology into focus, it was important to realign the context of the program to our assumption of man. Therefore, man became the focal point in the study of manufacturing and was viewed as a Producer, Consumer, Social Being, and Problem Solver.

The Revised Program

As evidenced by the above, the focus of the program remains within the area of manufacturing. It should also be recognized that the curriculum and instructional plans were revised to facilitate in the students' comprehension of that area of concentration. Therefore, the purpose of the course was to serve as a basic conceptual study of the major manufacturing systems as they developed, and exist today. It was to aid to introduce the student to the fundamentals, processes, techniques, materials, and tools necessary for his understanding of the make-up of our Technological Society.

Objectives

1. To develop an understanding of Technology, its relationship to man, industry, society and culture, and recognize the interdependencies of each.
2. To develop an understanding and appreciation of the overall makeup of the manufacturing systems.
3. To identify career and occupational roles as they exist within the manufacturing systems.
4. To develop positive attitudes toward change and technological development.
5. To develop positive attitudes of "SAFETY", as related to mans interaction with the natural and artificial environments.
6. To uncover and further develop basic skills and interests as related to manufacturing.
7. To further develop the ability to work in individual and group endeavors.

Topic Outline of Program

- I. Introduction to Course
- II. Foundational Concepts
 - A. Transportation
 - B. Production
 - C. Communication
- III. Household System
 - A. Hierarchy of Needs
 - B. Household System Defined
 - C. Hierarchy of Needs as Related to the Household System
 - D. Hierarchy of Needs as Related to Mans' Dependency on the Family in the Household System
 - E. Hierarchy of Needs as Related to Mans' Dependency on Man in the Household System
 - F. Hierarchy of Needs as Related to Mans' Dependency on Society in the Household System
 - G. Cultural Changes, Influences
 - H. Transportation as Related to Household System
 - I. Production as Related to Household System
 - J. Communication as Related to Household System
 - K. Transportation, Production, and Communication Influence on the Household System
 - L. Fabrication
 - M. Processing

(Adjunct) Renovation of Facility, approached within the context of the Household System

IV. Handicraft System

- A. General Information about the System
- B. Retail Handicraft
- C. Wholesale Handicraft
- D. Guilds
- E. The Central Workshop
- F. Concept of Work
- G. Craftsmanship of the Handicraft Stage

V. Basic Factory System

- A. Industrial Revolution
- B. Background of Industrial Revolution
- C. Agricultural Affects
- D. Invention and Key Developments of the Industrial Revolution
- E. Raw Materials - Development
- F. Power and Prime Movers - Development
- G. Product Manufacture - Development
- H. Distribution of Goods - Development
- I. Steam Engine - New Primemover
- J. Defining the Factory
- K. Tools to Machine
- L. Basic Technical Achievements of the Industrial Revolution
- M. Power to Energy
- N. Factory Production

VI. Mass Production Factory

- A. Defining of Mass Production
- B. Early History in U.S.
- C. Industrial Communication, Universal Language
- D. Drafting vs. Mass Production
- E. Types of Drafting
- F. People and Tools of Drafting
- G. Drawing Freehand
- H. Orthographic Projection
- I. Pictorial Representation
- J. Mass Production
- K. Four Aspects of Mass Production
- L. Modern Industry
- M. Monetary Affairs
- N. Research and Development
- O. Production
- P. Marketing
- Q. Industrial Relations

VII. Automation Factory System

- A. Defining Automation
- B. Operation of Automated Factory

Time allowed for the completion of only four of the five manufacturing systems, with the presentation of only two lessons in the Automated Factory System.

Selected Materials

No text was supplied, however, a selected number of texts, periodicals (many of those subscribed to in the 1973/74 program were found to be inappropriate and were thus not utilized this year), and industrial literature in the form of charts and pamphlets were readily available for student as well as teacher reference. (Note: A complete bibliography of references can be obtained from Project Open files).

Other sources of information and visual materials, such as: films, film strips, three-dimensional objects, etc. were obtained from the Point Pleasant Materials Center, the Technology Education Research and Resource Center, selected industries, educational motion picture service centers, and others, all aided in keeping with the idea of "Less Cost More Options".

Implementation

Scheduled University/County Meetings

In order to keep abreast with on sight project progression, two scheduled meetings were arranged by the Mason County Advisor for the purpose of observing the program in action, and for brief consultation with administrators. The first meeting took place on October 25, 1974, with the other being held on March 21, 1975.

On November 18, 1974 the administrators of the respective

institutions (which included a representative from the State Department, individuals from Mason County, and University staff) were assembled for the purpose of determining project status. At this time concerns were expressed, and the future role of West Virginia University in Mason County was discussed. A second administrative meeting was held on April 23, 1975. This meeting was less formal, however necessary to the maintenance of communication.

Class Size and Enrollment

All grade levels that constitute the Junior High sector of Wahama are grouped homogeneously according to scores received on mathematics and english test results of the previous year. Due to the available facilities, nature, and operation of the eighth grade C.E.I.T. Program, a decision was made in early August allowing for a maximum of 20 students per class to be enrolled at anyone time. For the benefit of the special education students, it was also decided that the programs class schedule would expand to accomodate six classes a day instead of the traditional five. The size of the individual classes fluctuated slightly throughout the year. The final totals were as follows:

Period	Boys	Girls	Total
1	11	5	16
3	14	5	19
5	13	7	20
6	10	9	19
7	12	3	15
8	$\frac{9}{69}$	$\frac{10}{39}$	$\frac{19}{108}$

Note: All classes scheduling was executed by the administration of Wahama. The above enrollments were representative of the five homogeneous groupings that were existant in the eighth grade.

Teaching Strategies

The teaching strategies that were utilized throughout the year were:

- 13 - Assigned Projects (Individual and Group)
- 3 - Experiments
- 4 - Film Strips
 - Group Discussions
- 7 - Hand-outs (Teacher Developed)
 - Lectures
- 27 - Motion Pictures
- 2 - Oral Presentations (Individual and Group)
- 3 - Overhead Transparencies
 - Printed Materials (Texts, Charts, Supplementary Readings, etc.)
- 2 - Research Projects (Individual Written Report)
- 5 - Slide Sequences
- 15 - Major Tests
- 1 - Three Dimensional Objects (Models)

Note: The number preceding the strategy refers to the frequency of actual times used. Strategies without a frequency were utilized almost continuously.

Concerns

Facilities. Upon a close review of the precluding years operation it was concluded that the sharing of the present facilities at Wahama with the Vocational Agriculture Program would not add to the level of success desired. It was further decided that the C.E.I.T. Program should take up permanent occupancy of J-1, or the existing

classroom space located in the Junior High building. This decision, under present conditions, was felt to be more appealing than the sharing of two facilities on a 50/50 basis by both Vocational Agriculture and C.E.I.T., as was the case last year.

Major renovations to J-1 were undertaken during 1974/75 to bring that facility to a level conducive to instruction. This renovation called for a major structural change and many minor maintenance operations.

Available Electricity. The existing electrical service available to J-1 fall short of being adequate. This was also reported in the 1973/74 yearly report. J-1 has one available 110 volt outlet located in a closet to the right of the room. This outlet is made available by placing an adapter into a porcelain light. Through a rapport built up with the county maintenance, two other porcelain sockets were converted to 110 outlets in J-1, one at the front of the room and another located to the left side. This gave a total of three sources of electrical power in the room. Although the problem of outlets has been semi-eliminated the overload and subsequent blowing of fuses has remained to plague the operation of the program. On many occasions upon using audio-visual equipment, two fuses have failed leaving J-1 and adjacent areas void of light. It is felt that this condition places not only J-1, but the entire Junior High building and its inhabitants in jeopardy.

Personnel Changes. During the summer months the team learned that John Zell, former principal of Wahama, had resigned and that a native from Mason County had been hired in his place. Mr. Larry

Sawyers, former assistant principal of Point Pleasant High School, had assumed the responsibilities as principal of Wahama.

Additional changes in Wahama personnel, affecting C.E.I.T., were the hiring of Mr. Gary Walbrown the new Vocational Agriculture teacher. Replacing Mr. Hugo Jahn who had resigned. Also the hiring of an additional janitor to maintain the furnace in the Junior High building was done at midyear.

Transition. With the finalization of this report the second year of this project will be concluded. Entering the third and final year of our efforts at Wahama we should bring to your attention that effort must be made to successfully transfer the operation of C.E.I.T. to a permanent teacher. This should be viewed with concern, for if an inappropriate time span is allotted, great difficulty could be encountered, which would be manifested by a lack of thorough knowledge, on the part of that new individual, with the operation and rationale of the program. Such an understanding can only be obtained through a close working relationships with the program.

Audio-Visual Equipment. There still exists a need for adequate audio-visual equipment for the Junior High.

Future Outlook. Project Open, Wahama is a three year on-going endeavor. At this time the second year has been concluded. As a result, the Program for the Study of Technology, West Virginia University will only be actively involved with the 8th grade program within the Junior High School at Wahama for the next calendar school year. This does not mean that at this time all ties with the program will be terminated. On the contrary, the Project Open Concept, as conceived by its originators, has made provisions for: (1) the success-

ful transition of the program to a full-time teacher; (2) the availability of the University in a consultant role, and (3) with the expansion of Project Open to the 9th grade at Wahama for 1975/76, a new project team will entail an additional three year active University commitment.

Project Status. Due to the nature of this developmental project, the 8th grade Project Open at Wahama has experienced two complete curriculum revisions, with a third currently in the planning stage. These changes were deemed necessary (due to its developers research into the area of technology and educational theory) in an effort to provide Mason County with a high quality Technology Education Program which is conducive to the school and students.

North Central Evaluation. Wahama High School received an on-site evaluation by the North Central Association this year for purposes of establishing its certification with that Association. Due to the present status of C.E.I.T., it was not formally assessed by the visiting evaluating team. However, the final report offered by North Central included recognition of the current attempts being made at Wahama concerning Technology Education.

Use of Mason County Funds

First Semester:

Date	General Description	Amount
9/12/74	Latta's Supplies	\$ 34.19
9/18/74	Carolina Lumber	117.51
10/4/74	Carolina Lumber	7.77
10/4/74	Murphy Fabric Center	47.95
11/1/74	Automotive Supply	15.00
11/21/74	Picken's Hardware	25.00
12/4/74	University of Michigan	10.95
	TOTAL	\$258.35

Second Semester:

1/20/75	Carolina Lumber	\$ 13.56
2/5/75	Picken's Hardware	50.00
2/12/75	Hobbyland of Huntington	63.90
2/12/75	Brodhead/Garrett Co.	203.28
4/1/75	Clark Products, Inc.	64.50
4/1/75	Point Pleasant Hardware	12.36
4/29/75	Carolina Lumber	<u>21.92</u>

TOTAL	\$429.42
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Yearly Total	\$687.77
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Note: Itemization can be obtained through Project Open files.

Summary

Restatement of the Purpose of the Project

It was the purpose of this second year encounter with the eighth grade students at Wahama Junior High School, Mason, West Virginia to bring about or enhance their understanding of Technology by specifically studying the five evolutionary systems of manufacturing.

Results and Conclusions

Upon concluding the second year we take this opportunity to pause and review the efforts. To date one would expect to find visual evidence of progress at Wahama. Some sign of stability, and foundation for the curriculum should have, at this time, been established. Also evidence of acceptance by students as well as faculty and administrators would be expected.

We feel that such evidence can be sighted in support of C.E.I.T. at Wahama Junior High School. At a glance one would find a newly renovated facility capable of supporting the program. This is not to say a perfect laboratory exists, but one which does enhance the C.E.I.T. programs success more than in the initial year of the effort.

With the implementation of the revised curriculum structure we have found a more meaningful method of introducing the students of Wahama to their Technological Society.

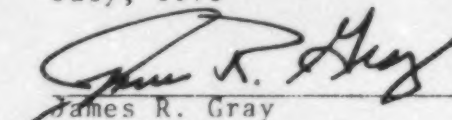
Interest and ease of communication among faculty members has greatly improved as a result of this year. Also the routine of teaching as experienced by the team members has been further aided by the acceptance of the program by the students. C.E.I.T. is now considered a "core" subject for Wahamas eighth grade curriculum. As a result a vast majority of the eighth grade class is enrolled in C.E.I.T. Evidence of the county's acceptance of C.E.I.T. Wahama can be drawn from their interest in expanding the program to include the ninth grade level in the 1975/76 school year.

We must conclude that although there still exists a great deal to accomplish at Wahama, the program to date has experienced a relatively high level of success.

Recommendations

1. It is felt that further researching of the literature is necessary for the updating and upgrading of the curriculum.
2. Even though a facility has been identified for the eighth grade C.E.I.T. Program, it is recommended that if opportunity should arise, a better facility would be desirable.
3. The electrical problem as mentioned earlier needs to be evaluated.
4. Great concern exists for the transition of the program to a permanent teacher.

Respectfully Submitted
July, 1975


James R. Gray


Walter A. Seder